AMENDMENTS TO THE SPECIFICATION

Please amend the specification as follows:

1.   In the specification, please replace the first full paragraph on page 16 of the Application (beginning at line 3) with the following replacement paragraph (in which each addition is shown with an underline and each deletion is shown with a strikethrough):

In one preferred embodiment, the system is pre-calibrated and the probe is available in a package. Here, the package also preferably contains sterile syringes with the fluids to be injected. The syringes are attached to the machine and after heating of the fluid by the machine and placement of the probe in the organ of interest, the user presses a button that initiates the injection with subsequent computation of the desired parameters. The CSA and parallel conductance and other relevant measures such as distensibility, tension, etc. will typically appear on the display panel in the PC module 157~~160~~. Here, the user can then remove the stenosis by distension or by placement of a stent.

2.   In the specification, please replace the third full paragraph on page 16 of the Application (beginning at line 14) with the following replacement paragraph (in which each addition is shown with an underline and each deletion is shown with a strikethrough):

In one embodiment, the impedance and pressure data are analog signals which are converted by analog-to-digital converters 153~~150~~ and transmitted to a computer 157~~160~~ for on-line display, on-line analysis and storage. In another embodiment, all data handling is done on an entirely analog basis. The analysis advantageously includes software programs for reducing the error due to conductance of current in the organ wall and surrounding tissue and for

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displaying the 2D or 3D-geometry of the CSA distribution along the length of the vessel along with the pressure gradient. In one embodiment of the software, a finite element approach or a finite difference approach is used to derive the CSA of the organ stenosis taking parameters such as conductivities of the fluid in the organ and of the organ wall and surrounding tissue into consideration. In another embodiment, simpler circuits are used; e.g., based on making two or more injections of different NaCl solutions to vary the resistivity of fluid in the vessel and solving the two simultaneous equations [2] and [3] for the CSA and parallel conductance (equations [4] and [5], respectively). In another embodiment, the software contains the code for reducing the error in luminal CSA measurement by analyzing signals during interventions such as infusion of a fluid into the organ or by changing the amplitude or frequency of the current from the constant current amplifier. The software chosen for a particular application, preferably allows computation of the CSA with only a small error instantly or within acceptable time during the medical procedure.